

Title (en)

Power unit including a three-phase generator and a cycloconverter having three-phase input voltage and single phase output voltage

Title (de)

Leistungseinheit mit einem dreiphasigen Generator und einem Direktumrichter mit dreiphasiger Eingangsspannung und einphasiger Ausgangsspannung

Title (fr)

Unité de puissance comprenant un générateur triphasé et un cyclo-convertisseur avec tension d'entrée triphasée et tension de sortie monophasée

Publication

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Application

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Priority

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Abstract (en)

A power unit is provided which can perform stable feedback control by reducing a feedback gain, and sufficiently cope with fluctuations in the output voltage occurring according to fluctuations in the input voltage caused by fluctuations in the rotational speed of an engine. A pair of variable control bridge circuits are connected to three-phase output windings of a three-phase generator driven by the engine, and connected in an antiparallel manner to each other to form a cycloconverter for generating a single-phase alternating current to be supplied to a load. A voltage-detecting circuit detects a voltage of the three-phase alternating current. An effective voltage value-calculating circuit calculates an effective value of the voltage of the alternating current. A reference sinusoidal waveform-forming circuit generates a voltage of a reference waveform for controlling the single-phase alternating current. A reference effective voltage value-generating circuit generates a reference effective voltage for controlling the single-phase alternating current. A firing angle control device controls the pair of variable control bridge circuits such that the pair of variable control bridge circuits alternately switch to operate every half a repetition period of the single-phase alternating current, so as to make the effective value of the voltage of the single-phase alternating current closer to a value of the reference effective voltage, and at the same time, make the voltage of the single-phase alternating current closer to the voltage having the reference waveform. <IMAGE>

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